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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/551,402	04/17/2000	Marc Georges Girardot	AM9-99-0161	1417

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EXAMINER

HILLERY, NATHAN

ART UNIT	PAPER NUMBER
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2176

DATE MAILED: 01/12/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/551,402

Applicant(s)

GIRARDOT ET AL.

Examiner

Nathan Hillery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 12-38,41 and 44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11,39,40,42 and 43 is/are rejected.
- 7) ☒ Claim(s) 1-11,39,40,42 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to communications: Election filed on 12/23/00.
2. Claims 1 – 44 are pending in the case. Claims 1, 42, and 43 are independent. Claims 1 – 11, 39, 40, 42 and 43 have been elected for examination at this time.

Claim Objections

3. Claims 1 – 11, 39, 40, 42, and 43 are objected to because of the following informalities: inconsistent terminology. In line 5 of the claim 1, **markup portion** and **non-markup portion** are used; whereas, lines 6 – 7 use **non-markup component** and **markup component**. Consistency is required.
4. Claims 6 – 11 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claims recite definitions and introduce terms that do not relate to claim 1, the base claim. For purposes of express examination, the Office, to the best of its knowledge of the art, will interpret the claims in anticipation of an amendment.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1 – 11, 39, 40, 42 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Claim 2 recites the limitation "predetermined higher compression rate" in last two lines. There is insufficient comparative basis for this limitation in the claim and will not be considered in this examination.

8. **Regarding claim 5**, it is unclear what applicant means by "selectively" in line 1. It is recommended that applicant delete the word "selectively". The Office will not consider the term for purposes of examination.

9. **Regarding claim 6**, it is unclear what applicant means by "said DTD is contained in at least one of a <!DOCTYPE> tag and an external file and referenced from a <!DOCTYPE > tag". It is recommended that commas and other punctuation be used.

10. **Regarding claims 6 – 11**, it is unclear how the definitions of a "DTD", "element", "server", "client", etc relate to a method of compressing a document. Consequently, the Office will interpret the claims as not further limiting their base claim(s), namely claim 1, and reject them based on the best interpretation of the claims. Further, the claims recite definitions of terms known in the art and concepts obvious to the skilled artisan.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1 – 7, 39, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liefke et al. (An Extensible Compressor for XML Data).

13. **Regarding independent claim 1**, Liefke et al. teach that *we have implemented a compressor ... for XML data* (page 57, lines 1 – 2) and that *it ... preserves the input XML file faithfully, including element order ... the DTD, etc.* (page 57, 1st column, lines 6 – 9), which provide for **compressing an XML document and its associated schema information ...**. Liefke et al. teach that *the structure and the data are compressed separately* (page 57, 1st column, 2nd block, lines 5 – 6), which provides for ... **wherein, during said compressing, said markup portion (structure) and a non-markup portion (data) of said document are separated.** Liefke et al. do not explicitly teach that **the non-markup component is compressed using a first compression method and the markup component is compressed using a second compression method.** However, Liefke et al. do teach that *a novelty in XMill is that it allows users to combine existing compressors in order to compress heterogeneous XML data* (page 57, 1st Column, lines 9 – 11). It would have been obvious to one with ordinary skill in the art at the time of the invention to know that the invention of Liefke et al. provide for **the non-markup component is compressed using a first compression method and the markup component is compressed using a second compression method**, since Figure 1 (page 59) demonstrates that the *Structure Container* is compressed using gzip as default and that *Data Container 1, ... Data Container k* each are compressed first using a semantic compressor then gzip as default.

14. **Regarding dependent claim 2**, Liefke et al. teach that *the structure consists of XML tags and attributes ... the data consists of ... strings representing element text contents and attribute values. The structure and the data are compressed separately*

(page 57, 1st column, 2nd block), which provide for **said mark-up portion comprises structured component information**. Liefke et al. teach that *it does not need a DTD in order to compress, and preserves the input XML file faithfully, including element order, attributes order, PI's, comments, the DTD, etc.* (page 57, lines 6 – 9), which provide for **said schema information associated with the document is used with compressing the structure component** ... Figure 4 (page 62) shows compression rate versus time.

15. **Regarding dependent claim 3**, Liefke et al. teach that *it ... preserves the input XML file faithfully, including ... the DTD* (page 57, lines 6 – 9), which provide for **said schema information comprises a document type definition (DTD)**.

16. **Regarding dependent claims 4 and 5**, Liefke et al. teach that *the structure consists of XML tags and attributes ... the data consists of ... strings representing element text contents and attribute values. The structure and the data are compressed separately* (page 57, 1st column, 2nd block), which provides for **markup portion comprises a structure of the document and said non-markup portion comprises data associated with said document, and said XML document includes elements selectively containing any of character data, child elements, or a combination of character data and child elements**.

17. **Regarding dependent claim 6**, Liefke et al. do not explicitly teach that **an XML markup language is defined in a Document Type Definition (DTD), wherein said DTD is contained in at least one of a <! DOCTYPE > tag and an external file and referenced from a <! DOCTYPE > tag**. However, it would have been obvious to one with ordinary skill in the art at the time of the invention to know that having **an XML**

markup language is defined in a Document Type Definition (DTD), wherein said DTD is contained in at least one of a **<! DOCTYPE >** tag and an external file and referenced from a **<! DOCTYPE >** tag is common practice in the art (see page 6 [28] of the W3C XML specification for further support).

18. **Regarding dependent claim 7**, Liefke et al. do not explicitly teach that **an element is defined as a group of one or more subelements, character data, EMPTY, or ANY, and wherein attributes are optional, required, or selectively have a fixed value, and wherein optional attributes have a default and fixed attributes always have a default**. However, it would have been obvious to one with ordinary skill in the art to know that **an element ...** are terms of art and that the claimed limitations are simply recitations of the terms' definitions, since W3C teaches that *each XML document contains one or more elements, the boundaries of which are either delimited by start-tags and end-tags, or, for empty elements, by an empty-element tag. Each element has a type, identified by name, sometimes called its "generic identifier" (GI), and may have a set of attribute specifications. Each attribute specification has a name and a value* (page 10, first block) and that *an attribute declaration provides information on whether the attribute's presence is required, and if not, how an XML processor should react if a declared attribute is absent in a document* (W3C XML Specification, page 14, under 3.3.2). Further, Section 3 – Logical Structures of the XML Specification, beginning on page 10, should be read for further support.

19. **Regarding dependent claim 39**, Liefke et al. teach that *Xmill ... use zlib, the library function variant of gzip* (page 62, lines 1 – 3 of last block paragraph), which the

skilled artisan knows provides for **said first compression method comprises a lossless data compression method.**

20. **Regarding independent claim 42**, the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale.

21. **Regarding independent claim 43**, the claim incorporates substantially similar subject matter as claim 1, and is rejected along the same rationale.

22. Claims 8 – 11 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liefke et al. (An Extensible Compressor for XML Data) as applied to claims 1 – 7, 39, 42, and 43 above, and further in view of W3C (WAP Binary XML Content Format).

23. **Regarding dependent claim 40**, Liefke et al. do not explicitly teach **binary encoding method**. However, W3C teaches that *the binary format encodes the parsed physical form of an XML document, i.e. the structure and content of the document entities* (page 2, last block paragraph). It would have been obvious the skilled artisan to interpret the combined invention as providing for **said second compression method comprises a binary encoding method**, since Liefke et al. teaches that *a novelty in XMill is that it allows users to combine existing compressors in order to compress heterogeneous XML data* (page 57, first column, lines 9 – 11). It would have been obvious to one with ordinary skill in the art at the time of the invention to combine the teachings of Liefke et al. with that of W3C because such a combination would allow the users of Liefke et al.'s work the benefit of a *binary XML content format designed to reduce the transmission size of XML documents, allowing more effective use of XML*

data on narrowband communication channels. ... The binary format was designed to allow for compact transmission with no loss of functionality or semantic information. The format is designed to preserve the element structure of XML (page 2, second and third block paragraphs).

24. **Regarding dependent claim 8**, Liefke et al. do not explicitly teach **a tag name token ... W3C demonstrates on the third to last page in the last two tables that a tag name token is associated with each tag name, an attribute name token is associated with each attribute name and an attribute value token is associated with each attribute value which is defined in the DTD**. It would have been obvious to one with ordinary skill in the art at the time of the invention to combine the teachings of Liefke et al. with that of W3C because such a combination would allow the users of Liefke et al.'s work the benefit of a *binary XML content format designed to reduce the transmission size of XML documents, allowing more effective use of XML data on narrowband communication channels. ... The binary format was designed to allow for compact transmission with no loss of functionality or semantic information. The format is designed to preserve the element structure of XML (page 2, second and third block paragraphs).*

25. **Regarding dependent claims 9 and 10**, Liefke et al. do not explicitly teach **a server ... or a client ...** However, W3C teaches that a binary XML document is composed of a sequence of elements. Each element may have zero or more attributes and may contain embedded content. This structure is very general and does not have explicit knowledge of XML element structure or semantics. This generality allows user

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agents and other consumers of the binary format to skip elements and data that are not understood. It would have been obvious to one with ordinary skill in the art at the time of the invention to know that **a server searches for the token corresponding to an element or an attribute** and that **a client searches for the element or attribute corresponding to a particular token** because the server needs to parse the document and know how to present it to the client and the client needs to know how to interpret the document.

26. **Regarding dependent claim 11**, neither Liefke et al. nor W3C explicitly teach that **the server and the client each use a different data structure**. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to know that the capability of **the server and the client to each use a different data structure** is well-known because it is advantageous for a server to have a data structure that can handle various data in large quantities because it services many clients; whereas, a client needs a data structure that simply holds little data specific to its capabilities and that provides fast access to such data.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Hillery whose telephone number is (703) 305-4502. The examiner can normally be reached on M - F, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on (703) 305-9792. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


JOSEPH H. FEILD
PRIMARY EXAMINER

NH